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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,789	10/05/2004	Kun-Yi Chan	MTKP0178USA	5788
27765	7590	04/18/2008		
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116				
EXAMINER WYATT, KEVIN S				
ART UNIT 2878		PAPER NUMBER		
NOTIFICATION DATE 04/18/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com  
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mis.ap.uspto@naipo.com.tw

### Office Action Summary

**Application No.**

10/711,789

**Applicant(s)**

CHAN ET AL.

**Examiner**

Kevin Wyatt

**Art Unit**

2878

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-48 is/are allowed.
- 6) ☒ Claim(s) 49 and 60 is/are rejected.
- 7) ☒ Claim(s) 50-59 and 61-70 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This Office Action is in response to the Amendment after non-final and remarks filed on 01/16/2007. Currently, claims 27-70 are pending.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 49 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita (U.S. Patent No. 5,627,813) in view of Udagawa (Publication No. U.S. 2004/0013065 A1).

Regarding claim 49, Miyashita shows in Figs. 1 and 9, a light emitting device calibration system for calibrating a light emitting device in an optical disc drive, the light emitting device calibration system comprising: a laser diode (18 or 19) installed within the optical disc drive being the light emitting device to be calibrated; a microprocessor (28, i.e., cpu) electrically coupled (via D/A converter (12, 14) and voltage control current source (16, 17)) to the light emitting device for controlling power of the light emitting device by changing values of a drive signal (output of voltage control current sources (16, 17)), receiving a power indication signal ( $v_{mon}$ ) corresponding to light emitted by the light emitting device, and determining a power relationship (performed by comparators

(6-8)) relating values of the drive signal to powers of the light emitting device according to the power indication signal ( $v_{mon}$ ) for each of the values of the drive signal during a calibration mode; a light detector (4) for detecting the light emitted by the light emitting device to generate an analog signal (error signal in comparators (6-8)); a signal calibration circuit (combination of comparators (6-8), U/D counters (9-11), and D/A converters (12-14)) having a predetermined reference voltage ( $v_{ref}$ ) for generating the power indication signal ( $v_{mon}$ ) according to the analog signal (error signal) and the predetermined reference voltage ( $v_{ref}$ ). Miyashita does not have a non-volatile memory for storing the power relationship determined by the microprocessor during the calibration mode, wherein the microprocessor uses said power relationship to control value of the drive signal according to desired powers of the light emitting device during a normal operation. Udagawa shows in Fig. 10 a non-volatile memory (27) for storing a power relationship (for calculations and storing programs and signal ratios (PK2/PK1) determining power compensation values) determined by the microprocessor during the calibration mode, wherein the microprocessor uses said power relationship to control value of the drive signal according to desired powers of the light emitting device during a normal operation (paragraphs 0181-182). It would have been obvious to one skilled in the art to provide a non-volatile memory such as disclosed in Udagawa to the device of Miyashita for the purpose of providing access to previous power calibration information thus further optimizing power output from laser diodes.

Regarding claim 60, Miyashita shows in Figs. 1 and 9, a method of calibrating a light emitting device in an optical disc drive, the method comprising: providing a laser

diode (18 or 19) installed within the optical disc drive being the light emitting device to be calibrated; controlling power (using cpu (28)) of the light emitting device by changing values of a drive signal (output of voltage control current sources (16, 17)) to the light emitting device during a calibration mode; receiving a power indication signal ( $v_{mon}$ ) corresponding to light emitted by the light emitting device; determining a power relationship (using comparators (6-8)) relating values of the drive signal (output of voltage control current sources (16, 17)) to powers of the light emitting device according to the power indication signal ( $v_{mon}$ ) for each of the values of the drive signal; detecting the light (via photodetector (4)) emitted by the light emitting device to generate an analog signal (error signal in comparators (6-8)); providing a predetermined reference voltage ( $v_{ref}$ ); generating the power indication signal according to the analog signal and the predetermined reference voltage ( $v_{mon}$ ). Miyashita does not disclose storing the power relationship determined during the calibration mode for controlling values of the drive signal according to desired powers of the light emitting device in a normal operation mode. Udagawa discloses storing a power relationship (for calculations and storing programs and signal ratios (PK2/PK1) determining power compensation values) determined during a calibration mode in a non-volatile memory (27) for controlling values of the drive signal according to desired powers of the light emitting device in a normal operation mode (paragraphs 0181-182). It would have been obvious to one skilled in the art to provide a non-volatile memory such as disclosed in Udagawa to the device of Miyashita for the purpose of providing access to previous power calibration information thus further optimizing power output from laser diodes.

***Allowable Subject Matter***

4. Claims 27-48 are allowed.
5. Claims 50-59 and 61-70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 27, the prior art fails to disclose or make obvious a light emitting device calibration system comprising, in addition to the other recited features of the claim, "a signal calibration circuit having a predetermined reference voltage being coupled between the light detector and the microprocessor for generating the power indication signal having an inverse relationship with the analog signal."

Regarding claim 38, the prior art fails to disclose or make obvious, a method of calibrating a light emitting device comprising, in addition to the other recited features of the claim, "generating the power indication signal having an inverse relationship with the analog signal such that when the analog signal is at the state of no light was emitted by the light emitting device, the power indication signal reaches at a predetermined maximum value, which is a function of the predetermined reference voltage."

Claim 50 has allowable subject matter because the prior art fails to disclose or make obvious, either singly or in combination, a light emitting device calibration system for calibration a light emitting device in an optical disc drive, the light emitting device

calibration system, comprising, in addition to the other recited features of the claim, "wherein during the calibration mode, the microprocessor adjusts a value of the drive signal so that the light emitting device does not emit any light, calculates a gain of the light emitting device calibration system by measuring a sampled maximum value of the power indication signal as detected by the microprocessor corresponding to the predetermined maximum value of the power indication signal, and correct the power indication signals as measured by the microprocessor for each of the plurality of values of the drive signal according to the obtained gain."

Claim 61 has allowable subject matter because the prior art fails to disclose or make obvious, either singly or in combination, a method of calibrating a light emitting device in an optical disc drive, comprising, in addition to the other recited features of the claim, "adjusting a value of the drive signal until the light emitting device does not emit any light; calculating a gain of the light emitting device calibration system by measuring a sampled maximum value of the power indication signal as detected corresponding to the predetermined maximum value of the power indication signal; and utilizing the gain to correct the power indication signals for each of the value of the drive signal."

### ***Response to Arguments***

7. Applicant's arguments, see pages 14-16, filed 01/16/2008, with respect to the rejections of claims 49 and 60 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further

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consideration, a new ground(s) of rejection is made in view of Miyashita (U.S. Patent No. 5,627,813) and Udagawa (Publication No. U.S. 2004/0013065 A1).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Wyatt whose telephone number is (571)-272-5974. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/K. W./

Examiner, Art Unit 2878

/Georgia Y Epps/

Supervisory Patent Examiner, Art Unit 2878